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From: Libby Smith [mailto:libbysmith@comcast.net]
Sent: Monday, February 11, 2008 3:43 PM
To: Chairman.Hamilton; ViceChairman.Moseley; Commissioner.Howard; Commissioner.Wright; Commissioner.Mitchell; Commissioner.Fleming; Commissioner.Clyburn
Subject: Proposed SCE&G Net Metering Tariff

I am a home owner who is interested in installing solar photovoltaic panels both to reduce my energy costs and help meet South Carolina's clean & renewable energy needs. I have talked with SCE&G, the Office of Regulatory Staff, the Energy Office and NC Solar to gain an understanding of the proposed SCE&G net metering tariffs under consideration by the Public Service Commission.

Bottom line: I estimate that, after investing $30,000 in solar photovoltaic panels and generating up to 1/3 of my total electrical power needs, my monthly power bills may actually GO UP under the time of use/demand tariff rider (rate 7). Under the "flat rate" tariff rider (pr-1), the power company would buy excess power at a rate of only $.02 a kw/hr or less. As a rate payer, these proposed tariffs will discourage my household from installing solar panels, not encourage us.

Here is my understanding of how these SCE&G net metering options would work for me:

Tariff 1 Rider NM-3a to Rate 7: I will be required to change to Rate 7 which will effectively raise my power bill before I start trying to reduce it with solar panels. The new monthly added charge for the 15 minute peak "demand" portion of this rate schedule is both difficult to estimate and difficult to lower. The charge is likely to be over $100/month.

Tariff 2 Rider NME-1 to PR-1: I will keep my current rate of $.09 to $.10/kw. However, the power company will then purchase any excess solar power for only $.016 to $.022/kw hour.

Physical Requirements & Process: I believe SCE&G's application process is similar to North Carolina's Progress Energy. Progress Energy's web site contains 57 pages long, 8- step "Sell All Toolkit". There are multiple submissions to the power company, a submission to a public utilities commission, application for certification as a "qualifying facility" by the Federal Energy Regulatory Commission, application to NC Green Power etc. This process appears overwhelming, and I will probably have to pay the solar system vendor even more

money to handle this process since I don't understand the jargon and legalese enough to complete this process. Another unexpected expense for me is a $100,000 liability insurance policy that is required.

In my reading about net-metering issues, there appear to be power company rate structures that are working very successfully elsewhere for both the customers and the utilities. I hope the Public Service Commission will ask the power companies to reconsider and propose experimental rate structures & interconnection processes that will be attractive enough to customers to start to stimulate a local SC alternate energy economy.

I am attaching the details of what I hope is a correct understanding of how this tariff would work.

Probably more than you ever wanted to know about the 'net metering' riders before the SC Public Service Commission

an analysis prepared by Libby Smith, Charleston home owner and potential solar panel equipped homeowner for SC Green, a SC non-profit organization committed to fostering the developing of a green and sustainable SC.

Note: I apologize that this is so long but the length of this document says something about the complexity of these proposed tariffs. And this analysis doesn't even deal with designing or installing the renewable power system itself.

I have been talking with SCE&G, the Office of Regulatory Staff, the Energy Office and NC Solar to gain an understanding of the proposed options for a SC customer who wish to install solar panels and "sell" excess renewable energy to their power company. I have also read the 57 pages of required information which Progress Energy has on their NC website for their potential NC interconnection customers. SCE&G and the Public Service commission have told me that the SC power companies are emulating NC's system

Bottom line, I estimate my power bill may actually go up under one tariff and the reimbursement rate for generating electricity under the other tariff is is 2 cent/kwhr or less. . As a rate payer, these proposed tariffs will discourage my household from installing solar panels, not encourage us.

There are two components to becoming a renewable energy generator on SC's electric grid.

1. The utility rate structure for charging the customer for the power they consume from the grid and for compensating the customer for the power they deliver to the grid
2. The physical requirements for interconnection and the process of obtaining approval for this interconnection

Utility Rate Structure : SCE&G offers two tariffs for "net metering":

Option 1 = Rider NM-3a to Rates 7 and 28
(Limited to .2% of electric retail peak in previous year (first come, first served)

The customer must change to Rate 7, a "time of use/demand rate". This is SCE&G's true "net metering" rate. SCE&G installs dual meters at the customers house – one measuring power in from the grid and one measuring power generated by the customer and sent out to the grid.

The calculation of time of use/demand rates is quite complex and neither customers nor the power company have "time of use" data or "15 minute peak demand data" to enable a customer to make any realistic prediction of what their costs will be under this rate versus the rate they are currently paying. This complexity is independent of the 'time of use" predictions of how much and when power will be generated.

The customer's monthly bill has four components under Rate 7:

1. Facilities Charges -- $12 – always paid (covers customer equipment, billing etc). This charge is higher than for a non-net metered customer.

2. Demand Charges – According to SCE&G, this "demand" portion of the charge is attempting to recover the capital costs of maintaining the capability to meet the peak demand from that household. This charge is calculated based on the customer's peak 15 minutes of usage each month.. In a worst case scenario with two air conditioners running, water heater for showers, cooking on stove burners and in the oven, lights, base usage, tv, that 15 minute peak total could be as high as 12,000-15000 watts.

   "Managing" and reducing these short spikes is next to impossible. This spike only has to happen once/month to generate a "demand" charge of $100 or more. These peaks are likely in the early

evening when solar generation is low. These charges can never be offset by your net generation of power to the grid.

3. Peak and Non peak kilowatt hour consumption charges. – kilowatt hour charges for the electricity purchased from the grid. These charges are higher during "peak hours"

4. Power Generation Credits: If excess power has been generated by the customers equipment, SCE&G's billing department creates two power credits – a peak kw/hour credit and an off peak kw/hour credit. Each credit is applied only against the kw/hour charges for the power consumed during the matching time period. Any excess credit is carried over to the next month and applied against the appropriate time period kw/hour charge that month. Once a year, any excess credits are zeroed out. Since these credits, wipe out the actual retail charges, the customer is , in effect, receiving the retail rate for the power generated.

Summer (June-Sept) Peak 2pm -7pm M-Fi Winter 7am-12pm M-F

	Summer /kwhr		**Winter /kwhr**		**Summer/kwhr**		**Winter/kwhr**	
Facilities	**Demand**	**Demand**	**Demand**	**Demand**	**Energy**	**Billing**	**Energy**	**Billing**
Charge	charges	charges	charges	charges	charges	charges	charges	charges
	OnPeak	**OffPeak**	**OnPeak**	**OffPeak**	**OnPeak**	**OffPeak**	**On Peak**	**Off Peak**
12	10.25	0	6.44	0	0.06597	0.05074	0.06597	0.05074

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Option 2: Rider NME-1 to PR-1
Limited to 1st 50 customers

Under this option, the customer continues to purchase electricity at their existing their rate.

This rider is an update of Rate PR-1 for 'cogeneration and small power generators" that has been in effect since the late 80's in response the federal PURPA regulations with regard to utilities compensation of FERC approved "qualified power generators". *This is not a new tariff. PR-1 is currently in effect.*

In this option a single bidirectional meter is used which sends "net power" consumption information to the utility. If a customer is generating excess power the meter will register power sent to the grid. If a customer is bringing power from the grid, it will record the power being used from the grid by the customer.

PR-1 specifies that SCE&G's pay the customer the "avoided cost" rate for excess power generated. Summer payments would be @ 2.2 cents/kilowatt . Winter payments, based on time of use, would drop to 1.6 cents during the afternoon "non-peak hours". Note: SCE&G indicates that this reimbursement rate is 'too low".

My Current Rate 1 – buying power

	Summer		**Winter**	
	Energy	**Billing**	**Energy**	**Billing**
	charges	charges	charges	charges
Facilities	**1st 800kw**	**Remainder**	**1st 800kw**	**Remainders**
charge	/kwhr	/kwhr	/kwhr	/kwhr
8	0.10414	0.09467	0.09467	0.09088

PR-1 Reimbursement for excess power – selling power

	Summer		**Winter**		**Peak HRs**	
Seller	**On Peak**	**Off Peak**	**On Peak**	**Off Peak**	June-Sept	Oct-May
Charge	/kwhr	/kwhr	/kwhr	/kwhr	Mon-Fri	Mon-Fri
13	0.02205	0.01551	0.02011	0.01638	2pm-7pm	7am-12pm

Intereconnection Requirements & Process

This process is complex, long, and confusing. Progress Energy's NC website contains a "Sell All Toolkit" that is 57 pages long. Note: In reading the two riders, the interconnection paperwork appears to be different under these two options.

Assuming the SC process will be similar to NC, here are the steps from the "Sell All Toolkit". in SC riders

1. An isolation switch must be installed.
2. Customer must maintain a $100,000 liability insurance policy.
3. Application to Interconnect Small Generation 100kw or less – ask to connect
4. Interconnection Agreement for Small Generation less than 10kw -- agree between utility and customer
5. Application to Federal Energy Regulatory Commission for Approval as a "Qualifying Facility
6. Application to PUC for Certification of Public Necessity and Convenience
7. Power Purchase Agreement with the Utility –
8. Electrical Inspection and Installation of the Meter

All of this discussion concerns SCE&G. David Odell of Sunstor Solar in Greer SC has done a similar analysis of Duke Energy, his utility. He finds most of the same issues . Their direct charges are lower, but their extra charges appear higher.

Discussion

I believe the goal of the Public Service Commission here is to encourage the development of clean, renewable energy in SC by encouraging customers to install distributed, clean power generation in their homes and businesses. Building a renewable energy business will generate jobs and whole industries in SC as well as contribute positively to solving problem of pollution and climate change.

SC should design its offerings on utility rate structures are working in other parts of the country. The NC system has not attracted customers and a docket has been opened to revisit those rates. Homeowners in NC must have felt much the same way we do about the offerings. New Jersey, Colorado and New Mexico utilities have created tariffs that are working for them and for solar customers. Maybe we should look there.

NJ has a one page interconnection document and Colorado has a single 4 page form.

PACE – Palmetto Clean Energy

SCE&G, the Office of Regulatory Staff, and the Energy Office all told me that what they are really looking to here is the implement of PACE, modeled on NC GreenPower. NC GreenPower was created as a non-profit by NC's utilities as a vehicle to collect "donations" toward green power from NC utility customers and then pay NC home/business generators from these donations. Renewable energy should not be a charitable enterprise. Small solar generators are compensated from charitable donations. NC GreenPower has recently reduced their rate of reimbursement.

Note: Japan has 70,000 solar installations and Germany has 100,000 .